



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/563,810	01/09/2006	Naoteru Honda	1422-0705PUS1	5357

2292 7590 08/06/2010
BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER

MERCIER, MELISSA S

ART UNIT	PAPER NUMBER
----------	--------------

1615

NOTIFICATION DATE	DELIVERY MODE
-------------------	---------------

08/06/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No. 10/563,810	Applicant(s) HONDA ET AL.	
	Examiner MELISSA S. MERCIER	Art Unit 1615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 7-1-10.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4 and 6-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 4, 6-16, 18-22 is/are rejected.
- 7) ☒ Claim(s) 17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 1, 2010 has been entered.

Summary

Claims 1, 4, and 6-22 are pending in this application. Applicant has requested recognition of acceptability of the submitted drawing. The Examiner has not objected to Figure One.

Withdrawn Objections/Rejections

Claim Objections

The objection to claim 5 under 37 CFR 1.75 as being a substantial duplicate of claim 1 has been withdrawn in view of Applicants cancellation of the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 4, and 6-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawamoto et al. (US 2003/0021994).

Kawamoto discloses an ultra fine particle dispersion comprising ultra fine particles having an average particle size of 10-60nm in a plasticizer (abstract). The particles can be zinc oxide (paragraph 0021). The dispersability of the particles can be improved by the addition of a dispersing agent, which is preferably a polyglycerol fatty acid ester such as deglycerolize monolaurate, diglycerol monopalmitate, diglycerol monopalmitate, diglycerol monostearate, for example (paragraph 0029). It is noted that Applicants has identified these polyglycerol fatty acid esters as those which meet the functional and structural limitations recited in the instant claims.

Regarding claim 7, the use of enzymatic ally decomposed lecithin is not disclosed, thereby meeting the limitation of the claim.

While it is acknowledged the specific combination of components is not exemplified and the use of the polyglycerol fatty acid ester is an additional component and not a required component of the Kawamoto reference, it is disclosed as suitable for use. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have incorporated the dispersing agent into the composition

Art Unit: 1615

of Kawamoto since he disclosed it allows for the improved ability to form a homogenous dispersion.

The instant claims differ from the references only in the specific percentage selected for the compositions. However, It would have been deemed prima Facie obvious to one having ordinary skill in the art at the time of the invention to optimize the amount of the dispersing agent, to prepare a composition containing ultra fine particles is well within the level of one having ordinary skill in the art, and the artisan would be motivated to determine optimum amounts to get the maximum effect of the active compounds. Therefore, the invention as Whole has been prima face obvious to one of ordinary skill in the art at the time the invention was made.

Response to Arguments

Applicant's arguments have been fully considered but they are not persuasive. Applicant has amended the claims to recite an intended use for the composition (i.e. a food or beverage). It is noted by the Examiner that the specification disclose the composition can be incorporated into a food or beverage and not the mineral composition is a food or beverage. The composition disclosed by Kawamoto does not appear to require the use of any component which would render it unsuitable for use in a food or beverage composition. Therefore, it is the position of the Examiner that absent a showing to the contrary, the mineral composition of the instant claims can be added into a food or beverage.

Newly Applied Rejections

Claim Objections

Claim 17 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 103

Claims 1, 4, 6, 8-16, 18-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nanbu et al. (US Patent 6,074,675) in view of Kumar et al. (Preparation and Surfactant Properties of Diglycerol Esters of Fatty Acids; JOACS Vol 66, no 1 January 1989).

Nanbu discloses a mineral-containing composition including enzymatic ally decomposed lecithin and a water-insoluble mineral. Since the mineral composition shows excellent dispersion stability of the water-insoluble mineral, the mineral composition can be utilized in a wide variety of fields such as foods, cosmetics and industrial products (abstract). Lecithin has an HLB of 4. The water insoluble minerals have a solubility product in water at 25C of 1.0×10^{-7} or less are used, and in particular, metal salts having a solubility product in water at 25C of 1.0×10^{-7} or less are preferably used (column 6, lines 26-35). The particle size is 0.4um or less (column 7, lines 65-66).

Regarding claim 4, Applicants attention is drawn to column 6, line 36 through column 7, line 27, which disclose the same minerals are recited in the instant claims and specification for suitable minerals.

The composition can further comprise a non ionic surfactant, such as a polyglycerol ester of a fatty acid which is an ester formed between a polyglycerol and a fatty acid, and its esterification ratio is not particularly limited. The kinds of the fatty acids are not particularly limited. It is desired that the fatty acid has hydroxyl group in a saturated or unsaturated, linear or branched fatty acid having 6 to 22 carbon atoms, preferably 8 to 18 carbon atoms, more preferably 12 to 14 carbon atom (column 3, line 56 through column 4, line 5).

The composition can be incorporated into foods, drugs, feeds, cosmetics, and industrial products (column 9, lines 13-57).

While it is acknowledged that the polyglycerol fatty acid ester component preferably contains 70% by weight or more of a polyglycerol having a degree of polymerization of 3 or more (column 4, lines 53-59), it is also disclosed the polyglycerol ester of a fatty acid is referred to an ester formed between a polyglycerol and a fatty acid, and its esterification ratio is not particularly limited. The kinds of the fatty acids are not particularly limited. In the present invention, it is desired that the fatty acid has hydroxyl group in a saturated or unsaturated, linear or branched fatty acid having 6 to 22 carbon atoms (column 4, lines 6-13). It is also additionally disclosed the glycerol esters of fatty acids include esters formed between glycerol with a fatty acid and mixtures of monoglycerides, diglycerides, and triglycerides (column 5, lines 13-18).

Kumar discloses the preparation and use of diglycerol fatty acid esters, including monoesters laurate and undecenoate, which have a monoester content of 55 and 59, respectively (tablet 1).

Art Unit: 1615

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a polyglycerol fatty acid ester component having a monoester content of the diglycerol fatty acid ester is 50% by weight or more as taught by Kumar since they are disclosed as providing excellent surfactant properties and emulsion stability (table 2).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MELISSA S. MERCIER whose telephone number is (571)272-9039. The examiner can normally be reached on 8:00am-4:30pm Mon through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert A. Wax can be reached on (571) 272-0623. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1615

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Melissa S Mercier/
Examiner, Art Unit 1615

/Robert A. Wax/
Supervisory Patent Examiner
Art Unit 1615